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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/586,797	06/05/2000	Yun Hyung Yi	52467-081	7980

7590 08/21/2002

FLESHNER & KIM
PO Box 221200
Chantilly, VA 20153-1200

EXAMINER

NGUYEN, TAI V

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 08/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/586,797

Applicant(s)

YI, YUN HYUNG

Examiner

Tai V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 8-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group II, claims 7 and 12 in Paper No. 5 is acknowledged. The traversal is on the ground(s) that the invention is sufficiently related that a thorough search for the subject matter of each of designated inventions would not be a serious burden. This is not found persuasive a search for all the inventions would require non-coextensive search, different art, and different lines of patentability, which would place a serious burden on the examiner.

Therefore, the requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-6 and 8-11 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected claims 1-6 and 8-11, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No.6.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

4. Following title is suggested: A METHOD FOR SURFACE MOUNTING ELECTRONIC COMPONENTS ON A PRINTED CIRCUIT BOAED.

5. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old

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apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.**

Extensive mechanical and design details of apparatus should not be given.

6. The abstract of the disclosure is objected to because the abstract is not drawn to the claimed invention, i.e. method. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 7 and 12 are rejected under 35 U.S.C. 112 second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as invention.

In claim 7, the recitation of "if the electronic components are not held accurately" (lines 6-7) is misleading and confusing. The "if" statement does not imply that the step of identifying has to

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even occur. For example, when the head units accurately hold the electronic components, is a step of "identifying" still ongoing? Or does "identifying" even need to occur? The language is ambiguous.

The same problems occur with the limitations of "if...accurately" (lines 8-9), "if ... accurately" (lines 10-11), and "if...completed" (lines 14-15). The following ambiguities arise. Do the electronic components have to be held again when the components are accurately held? Do the components even have to be mounted at all when the components are held or not held accurately? Lastly, why does the PCB even have to be discharged, if the routs are not completed? The above questions render the claims as being vague and indefinite.

The same problems occur in claim 12.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 7 and 12, as best understood, are rejected under 35 U.S.C. as being unpatentable over Togami et al (US 5,855,059) in view of Takahashi et al (US 5,084,962).

Togami et al discloses a method for surface mounting electronic components on a printed circuit board, the method comprising the steps of: providing the PCB(16, Fig 1) from a conveyer (14, Fig 1) to a moving member (X axis path, Fig 1); moving the PCB to a predetermined place (see column 2, lines 64-65+); head units holding electronic components (35, Fig 3); confirming

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whether or not predefined movement routes are completed (see column 5, lines 25-40); and discharging the PCB, if the predefined movement routes are completed (see column 5, lines 62-67 and column 6, lines 1-9). Togami does not teach the step of identifying if the head units accurately hold the electronic components; holding the electronic components again, if the electronic components are not held accurately; mounting the electronic components on the PCB, if the electronic components are held accurately. Takahashi et al discloses a step of identifying the head units by accurately holding the components with a picture processing unit out carrying a comparison between the stored picture data on an electronic component and the actual picture of the component obtained by the first optical detection means. Also, a picture of a positioning mark of a printed circuit board on which the electronic component is to be mounted is picked up by the second optical detection means to be sent to the picture processing unit (see column 8, lines 16-23). It would have been obvious to one of ordinary skill in the art this time of invention to modify Togami et al by identifying if the head units accurately hold the electronic components, as taught by Takahashi et al, to positively achieve the electronic component being precisely located in the electronic component mounting position on the printed circuit board (see column 8, lines 43-46).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

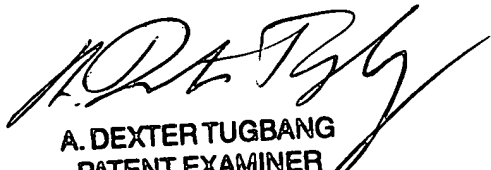
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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tai V Nguyen whose telephone number is (703) 308-1791. The examiner can normally be reached on M-F (7:30-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vo Peter can be reached on (703) 308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7307 for regular communications and (703) 305-3579 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

Tn
August 19, 2002


A. DEXTER TUGBANG
PATENT EXAMINER